

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|---|---|------------------|---------|------------------|
| S1 | 4 | ("20040249809" "6609088").PN. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/03 14:57 |
| S2 | 1 | bounded with error same sub-tree | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/03 15:05 |
| S3 | 50 | bounded with error same compress\$3 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/03 15:06 |
| S4 | 34 | bounded with error with compress\$3 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/03 15:09 |
| S5 | 1 | bounded with error with compress\$3 same tree | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/03 15:10 |
| S6 | 4897 | search near2 tree | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 10:36 |
| S7 | 4 | search near2 tree same (time with weight) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 10:37 |
| S8 | 99 | search near2 tree same (time with level) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 10:37 |

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| S9 | 15 | search near2 tree same (time with level with node) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 10:47 |
| S10 | 28 | search near2 tree same (node with height) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 10:52 |
| S11 | 1 | sub-tree adj weight | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 10:54 |
| S12 | 38 | subtree with weight | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 10:57 |
| S13 | 1 | subtree with weight same pass | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/09 14:20 |
| S14 | 15 | subtree with weight same (single one) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 10:41 |
| S15 | 204 | affinity adj analysis | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 12:34 |
| S16 | 2317 | search adj tree | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 12:35 |

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| S17 | 70 | lru with tree | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 12:40 |
| S18 | 1 | lru with tree with stack | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 12:36 |
| S19 | 1 | lru with tree with distance | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 12:36 |
| S20 | 10 | lru with tree and locality | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 14:26 |
| S21 | 4092 | relative adj error | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/10 14:26 |
| S22 | 10 | relative adj error with tree | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 10:40 |
| S23 | 1913 | percent\$3 with histogram | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 10:42 |
| S24 | 3 | percent\$3 with histogram and lru | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 14:43 |

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| S25 | 502 | linear adj fitting | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 11:07 |
| S26 | 11219 | histogram same distribution | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 14:43 |
| S27 | 766 | histogram same distribution same percent\$3 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 14:46 |
| S28 | 33 | histogram same distribution same percent\$3 same fit\$4 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 15:02 |
| S29 | 15 | histogram same linear adj fit\$4 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 15:31 |
| S30 | 201 | "reference affinity" | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 15:32 |
| S31 | 1044 | affinity adj group | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/11 15:33 |
| S32 | 62 | affinity adj group with data | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 10:21 |

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| S33 | 473 | average with distance with limit | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 10:22 |
| S34 | 5 | average with distance with limit and cache | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 10:23 |
| S35 | 3984 | average with within with limit | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 10:24 |
| S36 | 3088 | (717/124-135).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/04/12 10:24 |
| S37 | 0 | S35 and S36 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 10:24 |
| S38 | 22045 | average with limit | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 10:24 |
| S39 | 3 | S36 and S38 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 10:26 |
| S40 | 9 | affinity adj group with average | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 11:01 |
| S41 | 516 | average adj affinity | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 11:01 |

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| S42 | 0 | average adj affinity with threshold | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 11:01 |
| S43 | 3 | average adj affinity with within | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 13:13 |
| S44 | 3 | k-percent | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 15:09 |
| S45 | 3628 | (717/140-161).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/04/12 15:09 |
| S46 | 3088 | (717/124-135).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/04/12 15:10 |
| S47 | 336 | reuse near distance | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 15:10 |
| S48 | 2 | (S45 S46) and S47 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 15:14 |
| S49 | 0 | 711/159,160 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 15:14 |
| S50 | 766 | (711/159-160).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/04/12 15:15 |

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| S51 | 0 | S47 and S50 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/04/12 15:15 |
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Relevance scale ☐ ☐ ☐ ☐ ☐**1** [Array regrouping and structure splitting using whole-program reference affinity](#)

Yutao Zhong, Maksim Orlovich, Xipeng Shen, Chen Ding

 June 2004 **ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 2004 conference on Programming language design and implementation PLDI '04**, Volume 39 Issue 6

Publisher: ACM Press

Full text available: pdf(202.16 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

While the memory of most machines is organized as a hierarchy, program data are laid out in a uniform address space. This paper defines a model of *reference affinity*, which measures how close a group of data are accessed together in a reference trace. It proves that the model gives a hierarchical partition of program data. At the top is the set of all data with the weakest affinity. At the bottom is each data element with the strongest affinity. Based on the theoretical model, the paper p...

Keywords: array regrouping, program locality, program transformation, reference affinity, reuse signature, structure splitting, volume distance

2 [Session 4: compilers 1: Lightweight reference affinity analysis](#)

Xipen Shen, Yaoqing Gao, Chen Ding, Roch Archambault

 June 2005 **Proceedings of the 19th annual international conference on Supercomputing ICS '05**

Publisher: ACM Press

Full text available: pdf(354.12 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Previous studies have shown that array regrouping and structure splitting significantly improve data locality. The most effective technique relies on profiling every access to every data element. The high overhead impedes its adoption in a general compiler. In this paper, we show that for array regrouping in scientific programs, the overhead is not needed since the same benefit can be obtained by pure program analysis. We present an interprocedural analysis technique for array regrouping. For eac ...

Keywords: affinity, compiler, data interleaving, data regrouping, frequency, memory optimization

3 [Exploiting cache affinity in software cache coherence](#)


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Relevance scale ☐ ☐ ☐ ☐ ☐1 [The implications of cache affinity on processor scheduling for multiprogrammed,](#)[shared memory multiprocessors](#)

Raj Vaswani, John Zahorjan

 September 1991 **ACM SIGOPS Operating Systems Review , Proceedings of the thirteenth ACM symposium on Operating systems principles SOSP '91**, Volume 25 Issue 5

Publisher: ACM Press

Full text available: pdf(1.57 MB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In a shared memory multiprocessor with caches, executing tasks develop "affinity" to processors by filling their caches with data and instructions during execution. A scheduling policy that ignores this affinity may waste processing power by causing excessive cache refilling. Our work focuses on quantifying the effect of processor reallocation on the performance of various parallel applications multiprogrammed on a shared memory multiprocessor, and on evaluating how the magnitude of this cost aff ...

2 [Array regrouping and structure splitting using whole-program reference affinity](#)

Yutao Zhong, Maksim Orlovich, Xipeng Shen, Chen Ding

 June 2004 **ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 2004 conference on Programming language design and implementation PLDI '04**, Volume 39 Issue 6

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While the memory of most machines is organized as a hierarchy, program data are laid out in a uniform address space. This paper defines a model of *reference affinity*, which measures how close a group of data are accessed together in a reference trace. It proves that the model gives a hierarchical partition of program data. At the top is the set of all data with the weakest affinity. At the bottom is each data element with the strongest affinity. Based on the theoretical model, the paper p ...

Keywords: array regrouping, program locality, program transformation, reference affinity, reuse signature, structure splitting, volume distance

3 [Affinity-based management of main memory database clusters](#)

Minwen Ji